Amendment to the Claims

Please amend the claims as follows.

Claims 1-106 (Previously canceled).

107 (Previously amended). An isolated synthase having a region with 40% or greater sequence identity to residues 579 to 847 of SEQ ID NO: 44, wherein one or more amino acid residues of said synthase that align with amino acids at positions 584, 587, 606, 609, 610, 688, 713, 714, 715, 716, 719, 753, 757, 831, 834, 835, 839, 841 and 842 of SEQ ID NO: 44 are residues other than the following ordered arrangements of residues:

Claims 108-162 (Previously canceled).

163 (Currently amended). The synthase of claim 107, wherein said synthase has ~~50% or~~ greater than 40% sequence identity to residues 579 to 847 of SEQ ID 44.

164 (Canceled herein).

165 (Previously added). The synthase of claim 107, wherein said synthase catalyses the formation of a terpenoid product from a monoterpene substrate.

166 (Previously added). The synthase of claim 107, wherein said synthase catalyses the formation of a terpenoid product from a sesquiterpene substrate.

167 (Previously added). The synthase of claim 107, wherein said synthase catalyses the formation of a terpenoid product from a diterpene substrate.

168 (Currently amended). The synthase of claim 165, wherein said ~~product is~~ synthase catalyses the formation of a cyclic terpenoid hydrocarbon.

169 (Currently amended). The synthase of claim 166, wherein said ~~product is~~ synthase catalyses the formation of a cyclic terpenoid hydrocarbon.

170 (Currently amended). The synthase of claim 167, wherein said ~~product is~~synthase catalyses the formation of a cyclic terpenoid hydrocarbon.

171 (Currently amended). The synthase of claim 165, wherein said ~~product is~~synthase catalyses the formation of an acyclic terpenoid hydrocarbon.

172 (Currently amended). The synthase of claim 166, wherein said ~~product is~~ synthase catalyses the formation of an acyclic terpenoid hydrocarbon.

173 (Currently amended). The synthase of claim 167, wherein said ~~product is~~ synthase catalyses the formation of an acyclic terpenoid hydrocarbon.

174 (Currently amended). The synthase of claim 165, wherein said ~~product is~~synthase catalyses the formation of a cyclic hydroxylated terpenoid hydrocarbon.

175 (Currently amended). The synthase of claim 166, wherein said ~~product is~~synthase catalyses the formation of a cyclic hydroxylated terpenoid hydrocarbon.

176 (Currently amended). The synthase of claim 167, wherein said ~~product is~~synthase catalyses the formation of a cyclic hydroxylated terpenoid hydrocarbon.

177 (Currently amended). The synthase of claim 165, wherein said ~~product is~~synthase catalyses the formation of an acyclic hydroxylated terpenoid hydrocarbon.

178 (Currently amended). The synthase of claim 166, wherein said ~~product is~~synthase catalyses the formation of an acyclic hydroxylated terpenoid hydrocarbon.

179 (Currently amended). The synthase of claim 167 wherein said ~~product is~~synthase catalyses the formation of an acyclic hydroxylated terpenoid hydrocarbon.

Claims 180-242 (Currently canceled)

243 (Newly added). The synthase of claim 107 wherein the amino acid residue that aligns with position 587 of SEQ ID NO. 44 is different from the amino acid residue at position 587 of SEQ ID NO. 44.

244. (Newly added). The synthase of claim 107 wherein the amino acid residue that aligns with position 606 of SEQ ID NO. 44 is different from the amino acid residue at position 606 of SEQ ID NO. 44.

245. (Newly added). The synthase of claim 107 wherein the amino acid residue that aligns with position 714 of SEQ ID NO. 44 is different from the amino acid residue at position 714 of SEQ ID NO. 44.

246. (Newly added). The synthase of claim 107 wherein the amino acid residue that aligns with position 715 of SEQ ID NO. 44 is different from the amino acid residue at position 715 of SEQ ID NO. 44.

247. (Newly added). The synthase of claim 107 wherein the amino acid residue that aligns with position 716 of SEQ ID NO. 44 is different from the amino acid residue at position 716 of SEQ ID NO. 44.

248. (Newly added). The synthase of claim 107 wherein the amino acid residue that aligns with position 719 of SEQ ID NO. 44 is different from the amino acid residue at position 719 of SEQ ID NO. 44.

249. (Newly added). The synthase of claim 107 wherein the amino acid residue that aligns with position 753 of SEQ ID NO. 44 is different from the amino acid residue at position 753 of SEQ ID NO. 44.

250. (Newly added). The synthase of claim 107 wherein the amino acid residue that aligns with position 834 of SEQ ID NO. 44 is different from the amino acid residue at position 834 of SEQ ID NO. 44.

251. (Newly added). The synthase of claim 107 wherein the amino acid residue that aligns with position 835 of SEQ ID NO. 44 is different from the amino acid residue at position 835 of SEQ ID NO. 44.